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When external audits miss startup fraud: auditor judgment under client pressure in Indonesia

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Abstract

Digital platform-based startups generate high-volume transactions across fragmented payment and data ecosystems, expanding opportunities for revenue manipulation while complicating evidence collection and verification. Yet the behavioural conditions under which external assurance detects—or misses—financial reporting fraud in such settings remain under-examined, particularly when engagement teams face time, fee, and relationship constraints. This study investigates how auditors' professional scepticism, client pressure, and reliance on management representations shape perceived detection efficacy in auditing revenue and receivables for startup and other digitally intensive clients in Indonesia. Using an explanatory sequential mixed-methods design, we first survey external auditors with recent, direct involvement in revenue and receivables testing and confirmations, and then conduct semi-structured interviews with a purposively selected subsample to clarify how the observed patterns arise in practice. The findings indicate that stronger sceptical orientations align with higher perceived ability to detect material misstatements, especially when auditors can triangulate management claims with digital traces and third-party evidence. In contrast, heightened client pressure is associated with a shift toward compliance-focused execution and "scope trimming" that reduces probing procedures, while heavier reliance on management representations corresponds to a narrower evidential base in fraud-prone areas. Interview evidence further suggests that detection efficacy in startup audits hinges on the feasibility of accessing platform and payment data, the capacity to reconcile financial and operational indicators, and the organisational latitude to sustain resource-intensive corroboration. The study advances understanding of assurance failures in startup fraud contexts by integrating behavioural drivers with evidential choices in digitally mediated audits. It offers practical implications for audit firms and standard-setters, including strengthening access pathways to third-party and platform data, protecting detection-oriented procedures from commercial compression, and treating elevated reliance on representations as a warning signal when independent corroboration is constrained.

Introduction

Rapid digitalisation and platform-based business models have reshaped how revenue is generated and recorded, especially in startups where systems and controls are still evolving. High-volume transactions routed through payment gateways, apps and third-party providers can increase opportunities for misstatement while obscuring fraud signals that traditional procedures may struggle to detect. Prior work on statistical and machine-learning fraud detection highlights how adaptive contemporary schemes have become and why effective prevention and detection remain difficult (Bolton and Hand 2002; Zengin-Karaibrahimoglu et al. 2021). In this environment, external auditors face growing expectations to provide reasonable assurance in high-growth clients.

The eFishery scandal illustrates these challenges in Indonesia. After being celebrated as an agritech unicorn with a social mission, the company came under investigation following allegations of serious internal financial misconduct, during which its CEO and co-founder/CPO were reportedly suspended pending inquiry (DealStreetAsia 2025). Media reports indicate the existence of dual financial reporting—

an external book showing profits and an internal book showing substantial losses—allegedly dating back to 2018 and involving key executives (CNBC 2025). Reports also suggest material revenue overstatement and transaction structures that masked underlying performance (Indonesia Business Post 2025; Kiroyan Partners 2025). Several international networks—including PwC, EY, Grant Thornton and KPMG—were reportedly involved at different points in audit and due-diligence work, yet the alleged fraud was not uncovered through these engagements; instead, a whistleblower and subsequent investigations triggered its exposure (Kiroyan Partners 2025). This does not imply wrongdoing by any firm or team, but it underscores how growth narratives, complex platform data and reliance on management-provided information can constrain detection-oriented procedures even in high-profile engagements. The case therefore sharpens the need to understand the behavioural and evidential conditions under which auditors' detection efficacy is strengthened or eroded.

A growing body of work highlights that auditing itself is being reshaped by digital transformation. Data analytics, automation and artificial intelligence (AI) now support risk assessment, anomaly detection and continuous assurance, enabling large data sets to be analysed and unusual patterns flagged more efficiently (Issa et al. 2016; Dai and Vasarhelyi 2017). Yet recent evidence also points to persistent constraints—data quality challenges, evolving fraud techniques and model bias—indicating that technological tools do not substitute for professional judgment. In particular, human judgement—especially professional scepticism—remains central to interpreting evidence, challenging managerial explanations and deciding when anomalies warrant deeper investigation (Trivedi and Kumar 2024; Bader et al. 2026). Professional scepticism, defined as a questioning mind and critical assessment of audit evidence (Hurtt 2010), can improve fraud-risk assessments and the identification of inconsistencies between financial and non-financial indicators, but it is exercised within organisational and client contexts that may either enable or constrain its expression.

One manifestation of such constraints is auditors' reliance on management representations. Auditing standards recognise written and oral representations as necessary evidence, but emphasise that they are less reliable than external confirmations or third-party data, particularly in areas susceptible to fraud such as revenue recognition and receivables (Carey and Clarke 2001; Green 2005; Hamilton et al. 2024). Nevertheless, when access to external data, IT logs or customer records is difficult, auditors may substitute management representations for more persuasive evidence. Recent work on digital transformation in auditing suggests that this risk may be amplified in technology and platform-based startups, where relevant evidence is often embedded in complex information systems and where data access is governed by service-level and privacy constraints (Agustin, 2020; Issa et al., 2016; Prawitasari and Paul Latupeirissa, 2024). These conditions can intensify client-related pressures—deadlines, fee constraints and relationship considerations—thereby shaping how auditors prioritise procedures, evaluate contradictory signals and decide whether to pursue disconfirming evidence.

Although a substantial body of research has examined fraud detection models, data-analytic tools and AI-based techniques (Ali et al., 2024; Bolton and Hand, 2002),much less is known about how auditors themselves perceive the effectiveness of their detection efforts in digitally intensive startup settings.

Existing studies tend to focus on ex post fraud outcomes, detection algorithms, or experimental judgments of fraud risk, rather than on auditors' perceived detection efficacy (PDE)—that is, their beliefs about how likely their procedures are to surface material irregularities in revenue, receivables and related financial reporting assertions. Building on work that links audit processes to fraud risk through the alignment of financial and non-financial measures (Brazel 2018) and on emerging evidence regarding AI and analytics in auditing (Green 2005; Trivedi and Kumar 2024; Thakkar et al. 2025), there is a need to understand how traditional behavioural drivers—professional scepticism, client pressure and reliance on management representations—jointly shape auditors' confidence in their ability to detect financial reporting fraud in such environments.

This gap is particularly salient in emerging markets, where capital markets are still developing, enforcement capacity may be uneven and digital startups are expanding rapidly. In these settings, auditors often face resource constraints and strong commercial pressures, while simultaneously being expected to adopt advanced analytics and respond to stakeholder demands for robust fraud prevention. Yet empirical evidence on how auditors in emerging economies navigate these competing demands, especially in relation to revenue and receivables of startup and other digital-platform clients, remains limited. Existing studies on digital transformation and fraud in auditing have largely drawn on either global literature reviews or single-country cases that do not fully capture mixed technological and behavioural dynamics in such contexts (Prawitasari and Paul Latupeirissa 2024; Trivedi and Kumar 2024).

Responding to these gaps, this study investigates how professional scepticism, client pressure and reliance on management representations are associated with external auditors' perceived detection efficacy in auditing revenue and accounts receivable of startup and digital-platform clients in Indonesia. Motivated by recent high-profile startup scandals in Indonesia, the study is guided by the following research questions:

- *RQ1: How does professional scepticism relate to auditors' perceived detection efficacy for revenue and receivables in startup and digital-platform clients?*
- *RQ2: In what ways do client-related pressures—such as deadlines, fees and relationship considerations—affect perceived detection efficacy in these engagements?*
- *RQ3: How does reliance on management representations, relative to external and digital evidence sources, influence auditors' perceived detection efficacy?*

By linking behavioural drivers, evidence choices and perceived detection outcomes in a digital auditing context, the study makes three main contributions. First, it extends prior work on professional scepticism and audit quality by modelling PDE as a distinct outcome in startup revenue audits involving heightened financial reporting fraud risk. Second, it integrates behavioural and technological perspectives by examining how client pressure and reliance on management representations interact with sceptical mindsets in environments rich in digital and third-party data. Third, by drawing on behavioural evidence from an emerging market and using a mixed-methods approach, the study offers

contextually grounded insights and practical recommendations for audit firms, regulators and standard-setters seeking to strengthen auditors' ability to detect financial reporting fraud in the age of digital transformation.

Literature review

Theoretical foundation. This study is anchored in agency theory, which explains how information asymmetry and divergent incentives between principals and managers create moral hazard and increase the likelihood of opportunistic reporting, including financial reporting fraud (Jensen and Meckling 1976). External auditing serves as an institutional monitoring mechanism intended to mitigate these risks by providing independent assurance. However, the effectiveness of this mechanism depends on auditors' professional judgment—particularly their willingness to challenge managerial assertions, interpret ambiguous evidence, and pursue independent corroboration when the risk of misstatement is elevated.

Fraud risk in digital and platform-based startups is not static; it adapts to changing technologies, controls, and institutional arrangements. The complexity of platform ecosystems and the dispersion of transactional evidence can blur the line between genuine anomalies and noise, making fraud signals harder to detect even when sophisticated detection approaches exist (Bolton and Hand 2002; Rahim et al. 2023). Research on misstatements also shows that fraudulent reporting often manifests as inconsistencies between accounting numbers and economic fundamentals, such as reported growth that is not supported by non-financial indicators (Dechow et al. 2011; Smith and Emerson 2017). At the same time, digital transformation expands both the opportunity set for manipulation and the toolset for detection, including analytics and AI-enabled anomaly detection (Issa et al. 2016; Dai and Vasarhelyi 2017; Trivedi and Kumar 2024). In this setting, we focus on perceived detection efficacy (PDE)—auditors' beliefs about how effectively their procedures can surface material fraud signals in revenue and receivables—as a behavioral outcome that links the monitoring role of assurance to specific drivers of judgment under pressure.

Empirical review and hypotheses development

Professional scepticism and perceived detection efficacy. Professional scepticism is central to audit judgment and is explicitly positioned in standards as a questioning mindset and critical assessment of evidence (International Auditing and Assurance Standards Board, 2024). Conceptually, scepticism entails not only vigilance toward the possibility of fraud but also the disposition to withhold premature conclusions and seek disconfirming evidence (Hurtt 2010). Prior work further connects scepticism to enhanced fraud-risk assessment and the use of richer evidential cues, including the alignment of financial and non-financial information (Brazel 2018). In digitally intensive startup engagements—where revenue narratives may be compelling and evidence may be dispersed across systems—scepticism should support deeper probing, broader triangulation, and more deliberate evaluation of alternative explanations.

From a PDE perspective, auditors with stronger sceptical orientations are more likely to perceive their detection work as effective because they design and execute procedures that are more sensitive to fraud signals and less dependent on managerial framing (Hurtt 2010; Amlayasa et al. 2025). Accordingly, we hypothesise:

H1. Professional scepticism is positively associated with perceived detection efficacy.

Client pressure and perceived detection efficacy. Auditors' judgments are formed within organisational and client environments that can constrain sceptical inquiry. Evidence on audit practice consistently shows that time pressure, budget constraints, and relational considerations can reduce testing depth and increase the likelihood of efficiency-driven decisions that may weaken detection-oriented work (Koch and Salterio 2017). Such pressures can also create a cost–quality trade-off in which auditors prioritise task completion over expanding procedures to resolve ambiguities, potentially reducing the perceived likelihood that procedures would surface material irregularities (Samagaio et al. 2025).

In startup and digital-platform contexts, these constraints may be amplified by compressed timelines, evolving data structures, and client sensitivity to extensive information requests. Under these conditions, auditors may narrow the scope of work, rely on readily available internal documentation, or defer more demanding procedures (Koch and Salterio 2017; Al-Rawashdeh et al. 2024). Because such adaptations reduce the breadth and independence of evidence collection, we expect perceived detection efficacy to decline as client pressure intensifies:

H2. Client pressure is negatively associated with perceived detection efficacy.

Reliance on management representations and perceived detection efficacy. Audit standards caution against over-reliance on management representations, positioning them as necessary but comparatively weaker evidence, particularly in fraud-prone areas such as revenue and receivables (International Auditing and Assurance Standards Board, 2024b). In practice, however, auditors may substitute management explanations for more persuasive evidence when access to external data is limited, confirmation responses are weak, or extracting and validating system logs is difficult—risks that can be pronounced in digital-platform settings (Prawitasari and Paul Latupeirissa 2024).

From a fraud detection standpoint, substituting independent corroboration with representations can be problematic because misstatement signals often require triangulation across external and non-financial sources to be detected with confidence (Dechow et al. 2011; Messier and Schmidt 2018). When auditors routinely accept representations as sufficient closure in complex areas, the evidential foundation becomes less robust, and auditors may rationally perceive their own detection efforts as less effective. Therefore, we hypothesise:

H3. Reliance on management representations is negatively associated with perceived detection efficacy.

Methods

Design. The study adopts an explanatory sequential mixed-methods design, combining a survey of external auditors with follow-up semi-structured interviews (Creswell and Plano Clark 2017). The quantitative phase tests hypothesised associations between professional scepticism, client pressure, reliance on management representations, and perceived detection efficacy (PDE) in revenue and receivables work. The qualitative phase then explains the mechanisms behind the observed patterns by eliciting concrete engagement experiences and evidence practices. This design is appropriate for digitally intensive startup contexts where behavioural drivers and evidence constraints jointly shape professional judgement and detection-oriented procedures.

Quantitative phase

Participants, sampling, and data collection. The target population comprises external auditors in Indonesia with recent experience auditing revenue and accounts receivable for high-growth or technology-intensive clients. Purposive sampling was implemented using explicit screening criteria to ensure substantive involvement in the revenue/receivables cycle rather than general auditing opinions. Eligible participants were (i) currently employed in a public accounting firm (Big Four or non-Big Four) at junior to partner level; (ii) had ≥ 1 year of audit experience; (iii) had audited at least one high-growth or technology-related client within the past three years (e.g., platform-based, fintech, e-commerce, SaaS); (iv) had direct involvement in planning/executing substantive procedures and/or third-party confirmations for revenue and receivables; and (v) self-reported familiarity with ISA 240 and ISA 580. Respondents outside public practice or without relevant cycle exposure were excluded through mandatory screening items. Invitations were distributed through professional networks/associations rather than open public channels to reduce ineligible participation. The final sample comprised 100 usable responses meeting all screening conditions.

Measures. All focal constructs were measured using multi-item Likert-type scales (1 = strongly disagree, 5 = strongly agree). Items were adapted from established literature and relevant auditing standards, then refined through expert review prior to fielding. Measurement of the variables is shown in Table 1.

Table 1
Measurement of variables.

Variable	Acronym	Measurement
Perceived detection efficacy (DV)	PDE	5 items assessing perceived effectiveness of procedures in detecting material misstatements/fraud in revenue and receivables (ISA 240; Brazel et al., 2009)
Professional scepticism	PS	8 items adapted from Hurtt (2010) capturing questioning mind, suspension of judgement, and alternative explanations (1 reverse-scored item)
Client pressure	CP	5 items adapted from Pierce and Sweeney (2004) capturing deadline, budget/fee constraints, retention concerns, and pressure to accept client-reported figures
Reliance on management representations	RMR	4 items derived from ISA 580 and ISA 240 capturing substitution of management explanations/internal documents for external confirmations/third-party evidence under access constraints
Audit experience (control)	EXP	Years of audit experience
Seniority (control)	LEVEL	1 = manager/partner; 0 = staff/senior
Firm type (control)	BIG4	1 = Big Four; 0 = non-Big Four

Content validity and reliability. Draft items were evaluated by a three-member expert panel (two practitioners; one academic). After minor wording refinements, the scales demonstrated strong content validity (item-level CVI and scale-level S-CVI/Ave as reported). In the main sample (n = 100), corrected item–total correlations and Cronbach's alpha values met conventional thresholds (approximately 0.78–0.86), supporting internal consistency.

Analysis strategy. Hypotheses were tested using multiple linear regression with PDE as the dependent variable and PS, CP, and RMR as focal predictors, controlling for EXP, LEVEL, and BIG4:

$$PDE_i = \beta_0 + \beta_1 PS_i + \beta_2 CP_i + \beta_3 RMR_i + \beta_4 EXP_i + \beta_5 LEVEL_i + \beta_6 BIG4_i + \varepsilon_i \quad (1)$$

Prior to estimation, data were screened for missingness and influential outliers. Model assumptions were assessed via residual diagnostics; multicollinearity was evaluated using VIF/tolerance; and heteroskedasticity was assessed using a Breusch–Pagan test. Where appropriate, heteroskedasticity-robust standard errors can be reported as a robustness check. To address common method bias risk inherent to self-reports, the study should report both procedural remedies (e.g., anonymity, psychologically separating predictor/outcome blocks, reverse-coded item) and a statistical diagnostic (e.g., single-factor check or marker approach)

Qualitative phase

Participant selection. Interview participants were drawn from survey respondents who consented to follow-up contact. Eight auditors (IF01–IF08) were selected using maximum variation sampling to reflect diversity by firm type (Big Four/non-Big Four), hierarchical level, and industry exposure (e.g., platform services, fintech, e-commerce, logistics). The small number is appropriate given the specialised population and a mechanism-oriented aim; depth is supported by high participant relevance ("information power"), and saturation is assessed during analysis.

Data collection. Semi-structured interviews (45–60 minutes) were conducted face-to-face or via secure online platforms. The guide was aligned with the survey constructs and probed (i) enactment of scepticism in revenue/receivables work; (ii) experiences of client pressure shaping audit scope; (iii) evidence substitution and constraints on external confirmations/digital traces; and (iv) concrete episodes where detection was strengthened or weakened. Interviews were recorded with consent, transcribed verbatim, and anonymised.

Analysis and trustworthiness. Data were analysed using reflexive thematic analysis with iterative familiarisation, coding, theme development, and refinement. Coding integrated deductive lenses (PS, CP, RMR, PDE) with inductive practice-level codes (e.g., growth narratives, scope trimming, access barriers to digital logs). Trustworthiness was supported through maximum variation sampling, an audit trail of coding/memos, and thick description with confidentiality protection.

Ethical considerations. Ethical considerations for research involving human participants was granted by the Academic Integrity Committee (*Komite Integritas Akademik*), Primakara University, on 3 November 2025. The Committee does not assign a formal approval number for this category of ethics review; however, the official approval decision letter is available and can be provided to the handling editor upon request. The study was conducted in accordance with the Committee's ethical guidelines and institutional regulations, with safeguards for voluntary participation, confidentiality, and anonymisation across both the survey and interview phases.

Results

Quantitative results

Sample characteristics. The respondent profile and audit engagement context are summarized in Table 1. The final sample comprises 100 external auditors in Indonesia, with representation from Big Four (45%) and non-Big Four (55%) firms. Respondents are distributed across hierarchical levels—staff/senior (42%), supervisor/manager (38%), and partner/engagement partner (20%)—and across audit experience bands of 1–3 years (30%), 4–7 years (40%), and ≥ 8 years (30%). Importantly, as reported in Table 2, all participants indicated recent involvement in auditing revenue and accounts receivable for high-growth, digitally intensive clients, including platform/app-based businesses, fintech/payments, multi-outlet retail, and e-commerce/logistics, underscoring the relevance of the sample to contemporary audit challenges in digital business environments.

Table 2
Sample characteristics.

Characteristic	Category	n	%
Firm type	Big Four	45	45
	Non-Big Four	55	55
Rank/position	Staff / Senior	42	42
	Supervisor / Manager	38	38
	Partner / Engagement partner	20	20
Audit experience (years)	1–3	30	30
	4–7	40	40
	≥ 8	30	30
Primary high-growth client type	Platform / app-based	32	32
	Fintech / payments	26	26
	Multi-outlet retail	22	22
	E-commerce / logistics	20	20

Descriptive statistics and correlations. Table 3 reports descriptive statistics and bivariate correlations among the study variables. On average, auditors report a moderately high perceived detection efficacy (PDE mean = 3.72, SD = 0.63), suggesting that respondents generally view their procedures as reasonably capable of surfacing material irregularities, although not at the upper end of the scale—consistent with the uncertainty and evidential opacity often associated with digitally mediated revenue streams and fragmented third-party data.

Table 3
Descriptive statistics and correlations.

Variable	Mean	SD	1	2	3	4	5	6	7
PDE	3.72	0.63	1.00						
PS	3.85	0.58	0.46**	1.00					
CP	3.02	0.71	-0.33**	-0.21*	1.00				
RMR	2.78	0.69	-0.31**	-0.26**	0.35**	1.00			
EXP	6.5	4.3	0.19	0.22*	-0.08	-0.10	1.00		
LEVEL	0.39	0.49	0.18	0.24*	-0.05	-0.09	0.52**	1.00	
BIG4	0.45	0.50	0.12	0.20*	-0.03	-0.06	0.18	0.15	1.00

Professional scepticism is relatively high (PS mean = 3.85, SD = 0.58) and is positively correlated with PDE ($r = 0.46$, $p < .01$), providing initial, directional support for the proposition that auditors who exhibit stronger sceptical traits (questioning mindset; critical assessment of evidence) tend to express higher confidence in their ability to detect misstatement in high-growth audit contexts (Hurtt, 2010). By contrast, client pressure (CP) shows a negative correlation with PDE ($r = -0.33$, $p < .01$), consistent with the idea that that deadlines, fee constraints, and relationship concerns can compress detection-oriented effort (Pierce and Sweeney, 2004). Reliance on management representations (RMR) is also negatively correlated with PDE ($r = -0.31$, $p < .01$), aligning with standards and prior evidence that management representations constitute comparatively weaker evidence—especially in fraud-prone areas such as revenue recognition and receivables—and may undermine the credibility of the detection net when external corroboration is limited (Carey and Clarke, 2001; Green, 2005; ISA 240, 2024a; ISA 580, 2024b; Hamilton et al., 2024). Correlations among predictors are modest to moderate (e.g., CP–RMR $r = 0.35$, $p < .01$), suggesting a plausible behavioural linkage: in pressured engagements, auditors may be more likely to accept management-provided explanations and internal documents when external confirmations or digital traces are difficult to obtain. Importantly, these associations remain well below levels typically indicative of severe multicollinearity, which is consistent with the low VIFs reported in diagnostics.

Regression results

To evaluate the hypotheses, we estimated multiple linear regression models with PDE as the dependent variable. Table 4 presents the baseline model (Model 1) including only the focal predictors (PS, CP, RMR) and the full model (Model 2) adding auditor background controls (EXP, LEVEL, BIG4). This staged approach allows assessment of whether the focal relationships are robust to alternative explanations linked to experience, rank-related authority, and organisational resources.

Table 4
Multiple regression results for perceived detection efficacy.

Predictor	Model 1 (no controls)			Model 2 (full model)		
	β (unstd.)	SE	p	β (unstd.)	SE	p
Constant	1.28	0.39	0.001	1.12	0.42	0.009
PS	0.33	0.08	< 0.001	0.31	0.08	< 0.001
CP	-0.25	0.08	0.002	-0.24	0.08	0.003
RMR	-0.20	0.08	0.013	-0.19	0.08	0.016
EXP	–	–	–	0.02	0.01	0.077
LEVEL	–	–	–	0.11	0.09	0.214
BIG4	–	–	–	0.08	0.09	0.377
R^2	0.37	–	–	0.40	–	–
Adjusted R^2	0.35	–	–	0.36	–	–
F	18.19	–	–	10.33	–	–
p (F)	< 0.001	–	–	< 0.001	–	–

Professional scepticism (H1). Professional scepticism is positively and strongly associated with PDE (Model 2: $\beta = 0.31$, SE = 0.08, $p < 0.001$). Substantively, this implies that a one-point increase in scepticism (on a 1–5 scale) is associated with an approximately 0.31-point increase in perceived detection efficacy, holding other variables constant. This is consistent with the conceptualisation of professional scepticism as an enabling disposition that drives more probing inquiry and more critical evaluation of evidence, particularly when the audit context features ambiguous digital trails and persuasive growth narratives (Hurtt, 2010). In settings where misstatement can be concealed through complex transaction routing and third-party platforms, scepticism may operate as a behavioural catalyst that prompts auditors to triangulate between financial and non-financial indicators, thereby strengthening confidence that detection is feasible (Brazel, 2018; Brazel et al., 2009).

Client pressure (H2). Client pressure shows a negative association with PDE (Model 2: $\beta = -0.24$, SE = 0.08, $p = 0.003$). This indicates that higher perceived pressure related to deadlines, fees, and client relationship considerations is associated with lower confidence in the ability to detect material irregularities. The result is consistent with the view that time–budget pressure can narrow audit scope and reduce depth of testing, thereby weakening detection-oriented work even where formal compliance with standards is maintained (Pierce and Sweeney, 2004). In digitally intensive clients, where evidential access and validation require additional coordination (e.g., obtaining gateway data, reconciling system logs), compressed timelines and commercial constraints may be especially consequential for detection efficacy.

Reliance on management representations (H3). Reliance on management representations is also negatively associated with PDE (Model 2: $\beta = -0.19$, SE = 0.08, $p = 0.016$). This supports the argument that when engagement teams increasingly substitute external corroboration with management explanations and internal documents—particularly in revenue and receivables cycles—auditors perceive the detection net as weaker. This aligns with auditing standards that treat representations as necessary but less persuasive evidence, and with scholarship highlighting the vulnerability of revenue-related assertions when independent confirmations or third-party data are constrained (ISA 240, 2024a; ISA 580, 2024b; Carey and Clarke, 2001; Green, 2005; Hamilton et al., 2024).

Controls and overall model fit. In the full model, experience (EXP) is marginal ($p = 0.077$), while rank (LEVEL) and Big Four affiliation (BIG4) are not statistically significant. This pattern suggests that, in this sample, perceived detection efficacy is explained more by behavioural drivers and evidential posture than by background characteristics alone. Model 2 explains a meaningful proportion of variance ($R^2 = 0.40$; adjusted $R^2 = 0.36$), indicating that professional scepticism, client pressure, and reliance on representations jointly provide a substantively informative explanation of PDE.

Robustness checks. We conducted additional analyses to assess robustness. First, comparing Model 1 and Model 2 shows that the signs, magnitudes, and significance levels of PS, CP, and RMR remain stable after including controls. Second, re-estimating Model 2 using heteroskedasticity-robust standard errors does not materially change inference, indicating that results are not driven by heteroskedasticity. Third, repeating the analysis on auditors with at least four years of experience yields coefficients consistent in direction and broadly comparable in magnitude, suggesting that findings are not limited to early-career auditors. Collectively, these checks support the stability of the core relationships.

Qualitative findings

To explain how and why the quantitative relationships arise in practice, we conducted semi-structured interviews with eight auditors (IF01–IF08) selected to reflect variation across firm type and seniority. The qualitative analysis provides mechanism-oriented insights that elaborate the regression pattern, showing how scepticism, pressure, and evidential substitution play out in the micro-practices of revenue and receivables auditing within digitally intensive client environments.

Challenging the growth narrative through sceptical triangulation

This theme explains the positive association between professional scepticism and perceived detection efficacy. Auditors with stronger sceptical postures described deliberately challenging client “growth narratives” by triangulating between reported figures and independent indicators. As one senior auditor explained:

“The client always starts with a very exciting story: user growth, GMV, big investors. If you just listen, everything sounds consistent. But as auditors we cannot stop at the story. I try to ask, ‘Where is this reflected in the gateway data, in the churn rate, in actual cash collection?’ That is where red flags usually appear.” (IF03, Senior, non-Big Four)

Such auditors extended their procedures beyond standard substantive tests to triangulate figures with app logs, payment gateway reports and operational metrics:

“For platform clients, I don’t rely only on invoices and journals. I want to see the API reports from the gateway, the dashboard downloads, even basic KPIs like active users. If the revenue curve goes up but user activity or top-up volume is flat, then my scepticism increases.” (IF06, Manager, Big Four)

These practices translate professional scepticism from an abstract attitude into concrete detection behaviours, such as designing targeted analytics, insisting on access to digital traces and probing inconsistencies. This pattern mirrors prior evidence that sceptical auditors who actively compare financial and non-financial indicators are more likely to constrain fraud risk(Brazel, 2018; Brazel et al., 2009) and aligns with agency theory’s view of auditing as a monitoring mechanism that challenges managerial opportunism under information asymmetry.

By contrast, auditors who described themselves as “more trusting” acknowledged that they sometimes accepted growth stories as long as basic documentation appeared in order:

“If the documents are complete and the controls testing is okay, sometimes we don’t push too much on alternative indicators. We feel the risk is covered even if we don’t go too deep into app data.” (IF01, Junior, non-Big Four)

These accounts suggest that PDE is not merely a reflection of available tools, but of how actively scepticism is enacted in the design and implementation of procedures, consistent with trait-based views of professional scepticism (Hurtt 2010). In agency terms, sceptical auditors appear to reduce the information advantage of managers by interrogating the growth narrative with independent evidence, and this strengthens their belief that the monitoring function will detect misstatements.

Client pressure and “scope trimming” of detection-oriented work

This theme accounts for the negative relationship between client pressure and PDE. Interviewees rarely described explicit demands to reduce work; rather, pressure was experienced as implicit constraints shaping feasibility:

“For some fast-growing clients, the fee doesn’t fully reflect the complexity of the data. The timeline is also very tight because they want the numbers quickly for investors. So even if we identify risk in revenue, practically we have to be selective: which additional procedures can we realistically perform?” (IF05, Manager, non-Big Four)

Under such conditions, auditors reported engaging in what they called “scope trimming”: narrowing the range of procedures, focusing on those that are easiest to execute and document, and postponing or omitting more demanding detection work such as expanded confirmations or deep log analysis:

“Ideally, I would expand confirmations and run more customised analytics. But with the deadline, we prioritise what is ‘doable’. That usually means more reliance on internal reconciliations and less time on complex digital trails.” (IF02, Senior, Big Four)

Auditors were aware that this scope trimming could weaken detection, and several explicitly linked client pressure to lower perceived efficacy:

“When I feel pushed by time and fee, honestly my confidence in detecting sophisticated fraud is lower. We still comply with standards, but in my mind, there is a gap between ‘compliance audit’ and ‘deep detection audit’.” (IF07, Partner, non-Big Four)

Under these conditions, auditors reported “scope trimming”: prioritising procedures that are easier to execute and document while reducing more time-consuming detection work (expanded confirmations, deeper digital log analysis). This mechanism is coherent with prior evidence that time–budget pressure can lead to reduced testing and other dysfunctional behaviours that threaten audit quality (El-Helaly and Al-Dah, 2025; Pierce and Sweeney, 2004).Importantly, interviewees explicitly linked this to diminished detection confidence—suggesting that PDE captures auditors’ internal assessment of the gap between compliance-oriented completion and detection-oriented assurance.

Substituting external corroboration with management representations

The third theme explains why higher reliance on management representations corresponds to lower perceived detection efficacy. Several auditors described the practical difficulty of obtaining external evidence—particularly merchant confirmations, third-party platform data, and detailed logs—resulting in greater dependence on management reconciliations and representation letters:

“For one platform client, we struggled to get complete confirmations from merchants. After several follow-ups, the partner decided we would rely on management’s reconciliation and a representation letter explaining the missing responses. Formally it was documented, but I did not feel very confident from a fraud detection perspective.” (IF04, Senior, non-Big Four)

In some cases, auditors framed such reliance as a pragmatic response to data access and privacy constraints:

“Payment gateway data and detailed user logs are not always available to us. There are privacy concerns, internal policies, and sometimes no clear protocol. So we end up relying more on management’s own downloads and explanations than we would like.” (IF08, Manager, Big Four)

These experiences resonate with fraud research emphasising the importance of triangulating management assertions with externally verifiable signals (Dechow et al. 2011). When management representations substitute for third-party confirmations or digital traces, auditors themselves distinguish between “closing issues on paper” and genuinely strengthening the detection net:

“Representation letters help close open points, but they don’t change my feeling about whether fraud would be caught. If we cannot obtain strong third-party evidence, my detection confidence remains low, even if the file looks ‘complete’.” (IF07, Partner, non-Big Four)

Viewed through an agency lens, high reliance on management representations reflects a situation where the auditor is increasingly dependent on the agent’s own narrative rather than independent information channels, thereby weakening the monitoring role on behalf of principals. This helps explain why higher RMR scores in the survey are associated with lower PDE.

Partial and uneven integration of digital/forensic procedures

The fourth theme bridges the behavioural constructs with the technological context. Some auditors described cases where combining scepticism with digital evidence substantially enhanced detection:

“We had a case where revenue growth was very aggressive. Instead of just checking invoices, we obtained transaction logs from the payment gateway and compared them to the journal entries. There we found patterns that did not make economic sense. That changed our risk assessment completely.” (IF06, Manager, Big Four)

These experiences reinforced auditors’ belief in their detection capability:

“When we manage to bring in IT logs and external data, my confidence that we would catch major issues is much higher. It feels like we have more ‘angles’ to see the transactions, not just what management provides.” (IF03, Senior, non-Big Four)

This is consistent with recent work on the potential of data analytics, AI and continuous auditing to enhance fraud detection and risk assessment (Issa et al. 2016; Dai and Vasarhelyi 2017; Ali et al. 2024). However, such procedures were not systematically embedded in all audits of high-growth clients. Several interviewees noted that digital forensics were often deployed only when a specific red flag or directive from specialist teams existed:

“Digital analytics is still not ‘business as usual’. We call the data analytics team when there is a special concern, but not every year. So many engagements still rely on traditional sampling and vouching, even for platform clients.” (IF02, Senior, Big Four)

Moreover, the use of these tools was constrained by the same client pressures discussed earlier:

“Running deeper analytics takes time and coordination. When the deadline is tight, those are the first procedures to be cut. So even though the tools exist, they are not always used when they would add most value.” (IF05, Manager, non-Big Four)

These observations align with reviews that note a gap between the theoretical potential of technology-enabled auditing and its practical implementation in the field (Prawitasari and Paul Latupeirissa 2024). In agency terms, digital tools can, in principle, reduce information asymmetry between managers and principals by enabling richer monitoring, but their effectiveness depends on how they are actually mobilised under commercial and time pressures.

Integrating qualitative insights with survey results

Taken together, the qualitative findings provide a rich explanation for the survey results and clarify the mechanisms through which agency-based constructs operate in practice. The positive relationship between professional scepticism and perceived detection efficacy (H1) is reflected in auditors’ descriptions of actively challenging growth narratives and triangulating revenue with independent digital indicators, consistent with prior evidence that sceptical auditors more effectively constrain fraud (Quadackers et al. 2014; Stevens et al. 2019; Rose et al. 2024; Brazel et al. 2025).

The negative associations of client pressure and reliance on management representations with PDE (H2 and H3) are explained by the mechanisms of scope trimming and evidential substitution, which echo earlier findings on time budget pressure and reduced audit quality (Houston 1999; Pierce and Sweeney 2004; Broberg et al. 2017; Ghani et al. 2022; Samagaio et al. 2025) and concerns about over-reliance on internal representations in high-fraud-risk areas (Carey and Clarke 2001; Green 2005; Hamilton et al. 2024). Under fee and time pressure, auditors narrow the breadth and depth of detection-focused work, and when external data are difficult to obtain, management representations are used to close outstanding issues, reinforcing auditors’ sense that some fraud risks remain insufficiently probed. The partial integration of digital/forensic procedures further illustrates both the potential and the limits of technology in strengthening detection.

Viewed through agency theory, these themes show how the monitoring role of auditors is shaped by the interplay of sceptical dispositions, contextual pressures and evidential choices in digital audit environments. Professional scepticism helps auditors counteract managerial incentives to overstate performance, while client pressure and reliance on management representations increase the effective cost of monitoring and weaken its intensity. In sum, the qualitative phase confirms and deepens the quantitative findings by showing that perceived detection efficacy is not merely a function of formal compliance with standards, but is constructed at the intersection of behaviour, context and technology in an agency relationship, providing an important foundation for the discussion and implications presented in the next section.

Discussion

Reframing agency-based auditing in startup and digital-platform settings through perceived detection efficacy

This study extends agency-based auditing research into startup and digital-platform contexts by positioning auditors' perceived detection efficacy (PDE) as a focal outcome. In agency theory, auditing functions as a monitoring device to reduce information asymmetry and constrain managerial opportunism (Jensen and Meckling 1976). Prior auditing research has examined audit quality, independence, and governance mechanisms that mitigate misstatement and fraud risk (Dechow et al. 2011; Messier and Schmidt 2018; Hamilton et al. 2024; Brazel et al. 2025). However, less attention has been paid to how auditors themselves evaluate the detectability of misstatements when client environments are characterised by rapid scaling, evolving systems, and fragmented digital evidence.

Our findings suggest that the monitoring function is not only a matter of formal independence or governance structures; it is materially shaped by behavioural capacity and evidential configuration. The positive association between professional scepticism and PDE indicates that scepticism operates as a practical monitoring capability in high-growth revenue contexts: it enables auditors to actively counter managers' information advantages by questioning growth narratives and triangulating assertions with independent indicators. The interview evidence—auditors reconciling reported revenue with app logs, payment-gateway data, and operational metrics—shows that scepticism is enacted through evidence-seeking behaviour, not merely held as an attitude.

Conversely, the negative relationships between client pressure, reliance on management representations, and PDE indicate that agency-based monitoring can be weakened through routine engagement economics and relational constraints. Client pressure—via fees, deadlines, and retention concerns—raises the effective cost of monitoring and encourages scope trimming of detection-oriented work (Pierce and Sweeney 2004). Reliance on management representations, while standard-compliant, shifts the evidential base towards the agent's narrative and away from independent verification. In agency terms, these patterns imply that detection efficacy is not solely a function of "being independent," but a function of whether auditors can sustain demanding evidential work under commercial constraints. Thus, PDE becomes a theoretically meaningful indicator of how well auditing can realistically perform its monitoring role in digitally complex environments.

Behavioural mechanisms: scepticism, pressure, and evidential substitution

A second contribution concerns the behavioural mechanisms linking professional scepticism, client pressure, and evidential choices. Prior research has underscored scepticism as central to fraud-related judgments and noted adverse effects of time and budget pressures on audit work (Hurtt 2010; Quadackers et al. 2014; Broberg et al. 2017; Stevens et al. 2019; Rose et al. 2024; Brazel et al. 2025; Samagaio et al. 2025). This study advances that conversation by showing these factors operate as a

coherent behavioural system that shapes perceived detection efficacy in revenue and receivables audits for high-growth clients.

The qualitative findings clarify how scepticism translates into higher PDE: sceptical auditors describe specific practices—challenging growth narratives, probing inconsistencies between financial and non-financial signals, and insisting on access to digital traces—that directly enhance their confidence that misstatements are detectable. In contrast, client pressure alters the audit production function: auditors describe prioritising procedures that are faster to execute and easier to document, while reducing or deferring detection-intensive procedures. This dynamic is best understood not as overt misconduct but as a rational response to constrained engagement economics—one that nevertheless narrows the detection net (Pierce and Sweeney, 2004). The interviews also reveal a meaningful distinction made by practitioners between a “compliance audit” and a “deep detection audit,” indicating that minimum conformance and maximum detectability may diverge under pressure.

Reliance on management representations emerges as a pivotal evidential mechanism. Standards recognise representations as necessary, yet they are weaker than independent corroboration, particularly in fraud-prone areas (ISA 240 and ISA 580, 2024a, 2024b). The interviews illustrate a consistent pattern: representations and internal documents are used to close open items when confirmations or third-party data are difficult to obtain, but auditors simultaneously report unease about what such closure means for detectability. This combination—formal resolution plus substantive doubt—helps interpret the statistical finding that higher reliance on representations is associated with lower PDE. Conceptually, heavy reliance on representations functions as a behavioural signal that evidence strength has been downgraded, even if files appear complete.

Technology and the potential–practice gap in digital evidence use

A third contribution concerns the technological context. Scholarship on audit analytics, AI, and continuous auditing highlights significant potential to improve risk assessment and anomaly detection (Issa et al. 2016; Dai and Vasarhelyi 2017). Yet existing syntheses point to implementation gaps and uneven adoption across routine engagements (Prawitasari and Paul Latupeirissa 2024). This study provides empirical support for that potential–practice gap in the specific context of startup and platform-based audits.

Interviewees indicate that detection confidence improves when scepticism is paired with digital and third-party evidence—such as reconciling gateway logs with reported revenue, interrogating platform usage metrics, or searching for inconsistencies across operational and accounting systems. In principle, such evidence can reduce information asymmetry and strengthen monitoring. In practice, however, analytics and forensic techniques are frequently deployed selectively—triggered by visible red flags or specialist involvement—rather than embedded as standard audit routines. Notably, the same pressures that drive scope trimming also affect technology deployment: resource-intensive digital procedures are often among the first to be reduced when deadlines tighten or budgets constrain.

These findings refine the technology-in-auditing narrative by showing that tools alone do not guarantee detection effectiveness (Darmawan et al. 2026). Their monitoring value is contingent on behavioural and organisational conditions: sceptical audit cultures, feasible engagement economics, and access to digital traces. In agency terms, technology can reduce information asymmetry, but only when auditors can sustain the evidential work required to operationalise it under real-world constraints.

A behavioural–evidential framework of detection efficacy in startup audits

To consolidate the quantitative associations and qualitative explanations, this study advances a behavioural–evidential framework of perceived detection efficacy (PDE) in startup and digital-platform audits. The framework conceptualises detection efficacy as an emergent outcome shaped by the interplay of behavioural capacity (professional scepticism), engagement constraints (client pressure), and evidence architecture (reliance on management representations), operating under conditions of variable access to digital and third-party traces. This integrative framing shifts attention from compliance-as-completion to detectability-as-capability, clarifying how the same formal standards environment can yield substantively different detection outcomes depending on how judgement and evidence are enacted in practice. These results are shown in Fig. 1.

Figure 1.

Figure 1 depicts two reinforcing pathways that weaken PDE and one pathway that strengthens it. The strengthening pathway arises when professional scepticism translates into active triangulation—challenging growth narratives and cross-validating reported revenue and receivables against independent indicators. Conversely, client pressure increases the likelihood of scope trimming and accelerates a shift toward evidential strategies that are easier to execute and document, including greater reliance on management representations. Reliance on representations is therefore not merely an evidentiary preference but a behavioural signal of constrained detectability: it can facilitate formal closure while narrowing the audit's detection net. The framework also specifies an enabling boundary condition—access to digital and third-party evidence—which makes scepticism actionable and reduces the need for representations when corroboration is feasible. Importantly, digital evidence does not automatically improve detection; its contribution depends on whether engagement conditions allow auditors to sustain corroborative procedures rather than defaulting to minimal, compliance-oriented routines.

Conclusion

This study examined how professional scepticism, client pressure, and reliance on management representations shape external auditors' perceived detection efficacy (PDE) when auditing revenue and receivables in startup and digital-platform engagements. Drawing on an explanatory sequential mixed-methods design, the findings indicate that scepticism is associated with stronger perceived detectability, whereas client pressure and heavier reliance on representations are associated with weaker perceived

detectability. The qualitative evidence clarifies how these relationships materialise in practice: scepticism is enacted through triangulation across digital traces and third-party information, while pressure encourages scope trimming and accelerates shifts toward evidence that is easier to obtain and document.

Building on these results, the paper advances a behavioural–evidential framework of detection efficacy in startup audits. The framework theorises PDE as an emergent outcome of the interaction between behavioural capacity (scepticism), engagement constraints (pressure), and evidence architecture (representations), under a boundary condition of uneven access to digital and third-party corroboration. This lens distinguishes formal closure from substantive detectability, showing that assurance can appear procedurally complete while the detection net is narrowed by evidential substitution—particularly in environments characterised by complex platform data, persuasive growth narratives, and constrained access to independent evidence.

Practically, the findings suggest that strengthening fraud detectability in digitally intensive audits requires interventions that go beyond adopting analytics tools. Audit firms and standard-setters should focus on (i) protecting sceptical work from engagement economics that reward speed over corroboration, (ii) establishing clearer expectations for when management representations are insufficient in high-risk revenue contexts, and (iii) improving routinised access to digital and third-party evidence (e.g., gateway logs, system traces, and external confirmations) to support triangulation. Future research could extend this work by testing boundary conditions across jurisdictions and engagement types, incorporating objective proxies of detectability and outcomes, and examining how organisational incentives and technology governance jointly shape auditors' behavioural responses under pressure.

Declarations

Competing interests

The authors declare that they have no competing interests.

Data availability

The materials underpinning this study are available in the supplementary files: the de-identified quantitative survey dataset and accompanying codebook (variable definitions, coding scheme, and transformations) are provided in Supplementary C (C1–C2); the full survey instrument is provided in Supplementary A; the interview guide, data-collection protocol, and consent templates are provided in Supplementary B; de-identified qualitative extracts supporting the reported themes are provided in Supplementary D; and the quantitative analysis workflow (SPSS-style syntax/step-by-step procedures, including reliability testing, regression specification, and diagnostics) is provided in Supplementary E. Raw qualitative transcripts and audio recordings are not publicly shared to protect participant confidentiality and comply with informed-consent conditions and institutional ethical requirements;

additional de-identified materials can be made available upon reasonable request, subject to confidentiality safeguards.

Ethical approval

This study received ethical approval from the Academic Integrity Committee (*Komite Integritas Akademik*), Primakara University, on 3 November 2025. The Committee does not issue a formal ethics approval number for this type of review; the approval decision letter can be provided to the handling editor upon request. All procedures were conducted in accordance with the Committee's guidelines and institutional research ethics requirements.

Informed consent

Informed consent was obtained from all participants prior to data collection. For the quantitative survey, consent was obtained electronically via a mandatory checkbox on the first page of the online questionnaire; only respondents who provided consent could proceed, and all completed survey responses were collected between 10/11/2025 and 05/12/2025. For the qualitative interviews, written (electronic) informed consent was obtained from each purposively selected interviewee before the interview commenced (12/12/2025–10/01/2026). Consent was obtained by the research team directly from eligible external auditors in Indonesia. Participants were informed about the study purpose, voluntary participation, the right to withdraw, and confidentiality/anonymisation measures. No personally identifying information is reported.

Author contributions

Author 1 – conceptualization, data curation, formal analysis, investigation, methodology, project administration, resources, visualization, writing – original draft, writing – review & editing; Author 2 – methodology, funding acquisition, supervision, validation, writing – review & editing; Author 3 – funding acquisition, validation.

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Figures

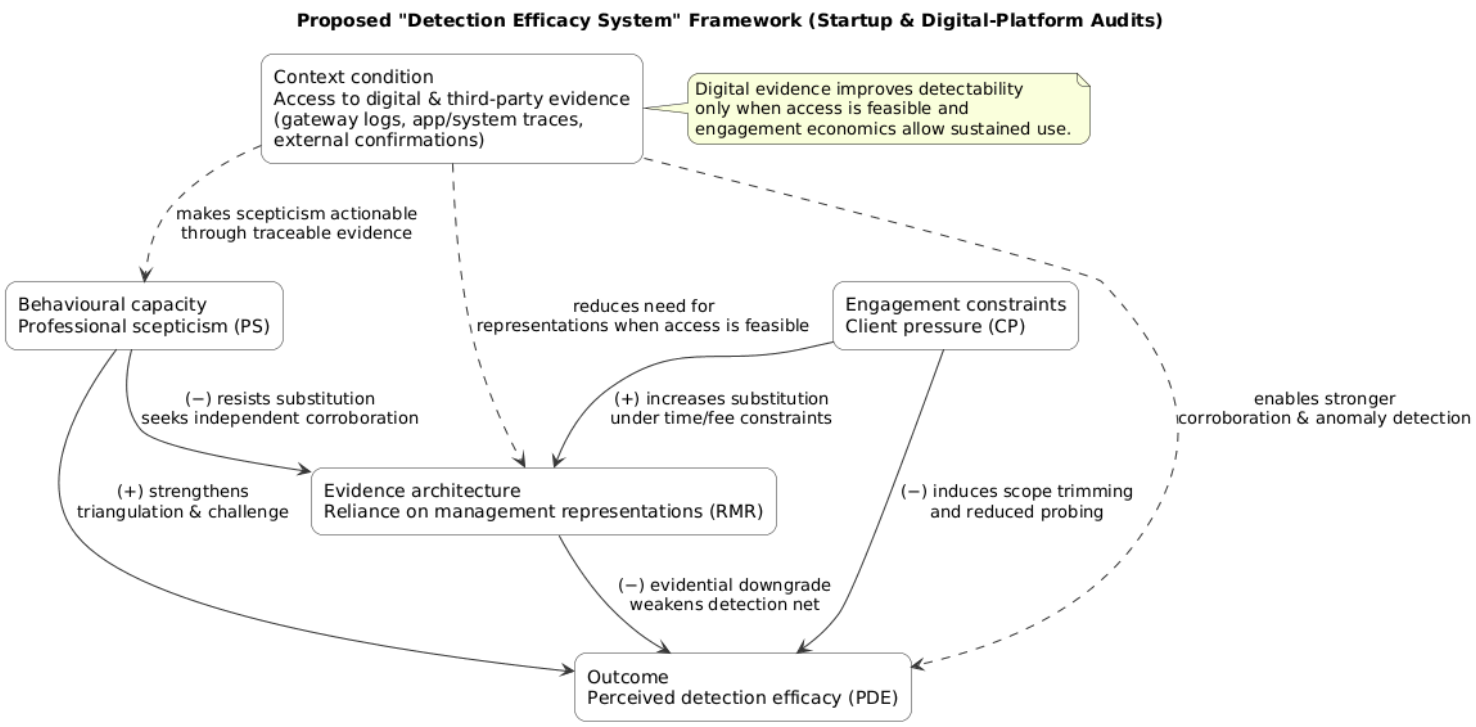


Figure 1

depicts two reinforcing pathways that weaken PDE and one pathway that strengthens it. The strengthening pathway arises when professional scepticism translates into active triangulation—challenging growth narratives and cross-validating reported revenue and receivables against independent indicators. Conversely, client pressure increases the likelihood of scope trimming and accelerates a shift toward evidential strategies that are easier to execute and document, including greater reliance on management representations. Reliance on representations is therefore not merely an evidentiary preference but a behavioural signal of constrained detectability: it can facilitate formal closure while narrowing the audit's detection net. The framework also specifies an enabling boundary condition—access to digital and third-party evidence—which makes scepticism actionable and reduces the need for representations when corroboration is feasible. Importantly, digital evidence does not automatically improve detection; its contribution depends on whether engagement conditions allow auditors to sustain corroborative procedures rather than defaulting to minimal, compliance-oriented routines.

Supplementary Files

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